

MICRO-AIDE



www.micro-aide.com

CWR-272A EVENT RECORDER



Annoyed and frustrated with record reports that include inaccurate time stamps?

Would you like your maintainers to copy record data directly to a flash drive, without using a PC?

Don't have a PC with an RS-232 port?

CWR-272A ~ the best solution for your interlocking and large capacity event recording requirements.

FEATURES & CAPABILITIES

- ▶ 256 AC/DC Digital and 16 Analog Inputs
- ▶ 16 Virtual Inputs, all programmable
- ▶ Automatic Coding Event detection and reporting
- ▶ Dual Relay Outputs, programmable
- ▶ Internal Ethernet Port is included
- ▶ 4 Train Speed Monitors
- ▶ Memory capacity of 147,480 records (expandable to 3,095,064)
- ▶ Records stored for up to 128 days
- ▶ Non-volatile flash memory, no internal batteries required
- ▶ Selectable time zone and automatic Daylight Saving Time adjustment
- ▶ Real-time clock drift of less than ± 8 sec. per month
- ▶ Zero clock drift with Ethernet Port or optional GPS Receiver
- ▶ Precise flash rate reporting and measurement
- ▶ Internal temperature reporting
- ▶ 2 RS-232 and USB Device Ports
- ▶ USB Host Port for copying records directly to a flash drive
- ▶ Front panel control via 20-position keypad and 80-character LCD
- ▶ Detachable connectors
- ▶ Minimum 3800 Vdc and 2000 Vac of isolation
- ▶ Mounts in std. 19" relay rack
- ▶ Optional GPS Receiver, internal modem and expanded memory
- ▶ Designed for use by the CTA

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SPECIFICATIONS

Physical

Size

L: 19.0" H: 8.1" D: 3.4"

Weight

7.0 lb.

Operating Environment

Temperature: -40 °C to 72 °C

Humidity: 0 to 95 %, non-condensing

Mounting

Standard: 19" rack

Construction

Fully enclosed, anodized aluminum with externally accessible keypad, LEDs and connectors

All components mounted on conformal coated, internal PCBs

Power

Voltage

Range: 9 to 36 Vdc

Consumption

Maximum: 5W (with GPS Receiver and Modem options)

Isolation

Power Terminals, Digital and Analog Inputs, USB Ports, GPS Rcvr and Ethernet Ports

Minimum: 3800 Vdc to chassis and any terminal

Internal Modem (optional)

Designed to meet FCC part 68 standards

Capacities

Inputs

Digital: 256, all opto-isolated, AC/DC

Analog: 16, voltage only

Virtual: 16, user-assigned

Outputs

Relay: 2, form C

Event Storage

147,480 records, expandable to 3,095,064 records

Liquid Crystal Display

Characters: 80 total on 4 lines

Viewing Area: 2.8" by .8"

Front Panel Keypad

Quantity: 20 keys

Physical Inputs

Input Impedance

Digital: minimum 10KOhms, opto-isolated

Analog: minimum 10MOhms

Range

Digital Input-On: 9 to 36 Vdc

Digital Input-Off: 0 to 1 Vdc

Analog DC Voltage: 3 scales, ± 25.5 Vdc, +51.1 Vdc, ± 255 Vdc

Analog AC Voltage: 2 scales, 25.5 Vac, 255 Vac

Event Validation Times

Digital: .01 to 327.67 seconds, compatible with fixed rate coding circuits

Analog: fast and slow filter settings

Analog Limit Values

Voltage

High and Low Limits: in multiples of .1 V or 1 V

Internal Temperature

High and Low Limits: -67 °F to 257 °F

Analog Input Accuracy

Typical Vdc: ± 15 Vdc or ± 1.5 Vdc

Typical Vac: ± 15 Vac or ± 1.5 Vac

Virtual Inputs

Any logical association shared by 1 to 4 variables (i.e., Digital, Analog or Virtual Inputs)

Assigned by defining the state of the Virtual Input for each combination of variable states

Creates standard Event Records

Relays can be controlled by each Virtual Input

Modem (optional) can be enabled to dial out Event Records

Train Speed Monitor

Usage

Quantity: 4, separately programmable

Reporting: via standard Event Record

Sensors: wired to 2 spare Digital Inputs, 50' to 5280'

Limit Values

5 to 180 mph

Memory

Type

Non-volatile, Event Records and Setup Database are stored in flash memory chip, newest data overwrites oldest data, 129th day over-writes first day

Storage Longevity

Infinite with power off, rated for 100,000 write operations

Ports

RS-232

Quantity: 2, for use with a PC

Baud Rates: 300 to 115,200

USB Host

Compatible with FAT-32 flash drives, can create a text file of Event Record data from any time span

USB Device

Eliminates need for serial comm port, data transfer rates of 4.71 Mbps

Ethernet

Type: 10/100 Base-T

Protocols: TCP/IP, Telnet, SNTP-Unicast and -Multicast,

Concurrent Sessions: Telnet (2)

Provides remote or local access via TCP/IP

Data transfer rates of 4.70 Mbps

User-assignable IP Address, port, sub-net mask, Unicast IP Address

GPS Receiver (optional)

Used to provide precise, real-time clock control, latitude and longitude coordinates

Modem (optional)

Provides remote access, auto-answer

Connectors

Power, Relays, and Analog Inputs

Detachable, tension clamp, 12 to 22 AWG

Digital Inputs

Detachable, screw-down, 12 to 22 AWG

Terminal Ports

DE-9 male, configured as DCE

USB Host Port

USB Type A female

USB Device Port

USB Type B female

Telephone Line

RJ-11 female

GPS Receiver (optional)

MCX female

Ethernet Port

RJ-45 female

Indicators

LCD Panel

Includes LED back lighting for enhanced visibility

Displays numerous command menus for configuring the recorder and retrieving data

LEDs (3)

GPS Status: green, red for failure

Terminal: green, flashes with send/rcv data

Modem: green, flashes with send/rcv data and ring

Controls

Keypad

Located on front panel, below LCD

Keys: 0-9, Browse, Alpha, Setup, Esc, Enter, Save/., left, right, up, down/-

LCD Contrast Adjust

Single-turn pot., accessible from front panel

Internal Clock

Accuracy

Typical: ± 8 seconds per month (3ppm)

Resolution

.01 seconds for all Event Records

Sync

SNTP-Unicast and -Multicast via accessible time server

GPS (with GPS Receiver option)

Operation

Full calendar, auto-adjusted for leap year, non-volatile for 30 days with loss of power

Enable or disable of automatic Daylight Saving Time adjustment

Non-drift, precise control with SNTP and/or optional GPS Receiver

GPS Receiver (optional)

Includes PCB and external antenna

PCB

Plugs into mating connector inside recorder

Antenna

Size: Dia. 1.8", H .6" (not including mounting screw)

Weight: 2 oz. (less cable)

Operating Temperature: -40 °C to 85 °C

Mounting: bulkhead mountable to surface less than 3/8" thick

Location: unobstructed skyward orientation, for use outdoors

Password Protection

Administrative Level

Access to all functions, limit 8 characters

Restricted Level

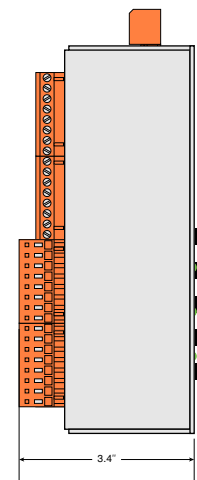
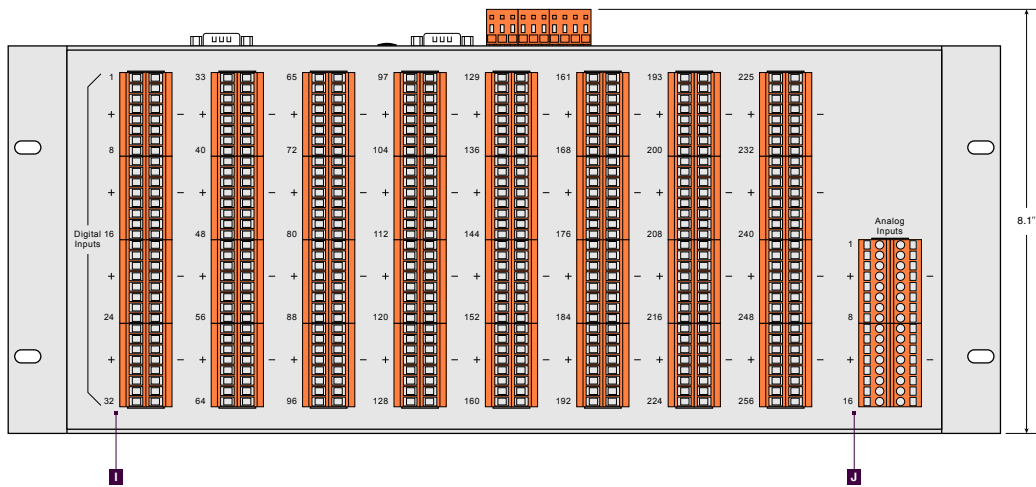
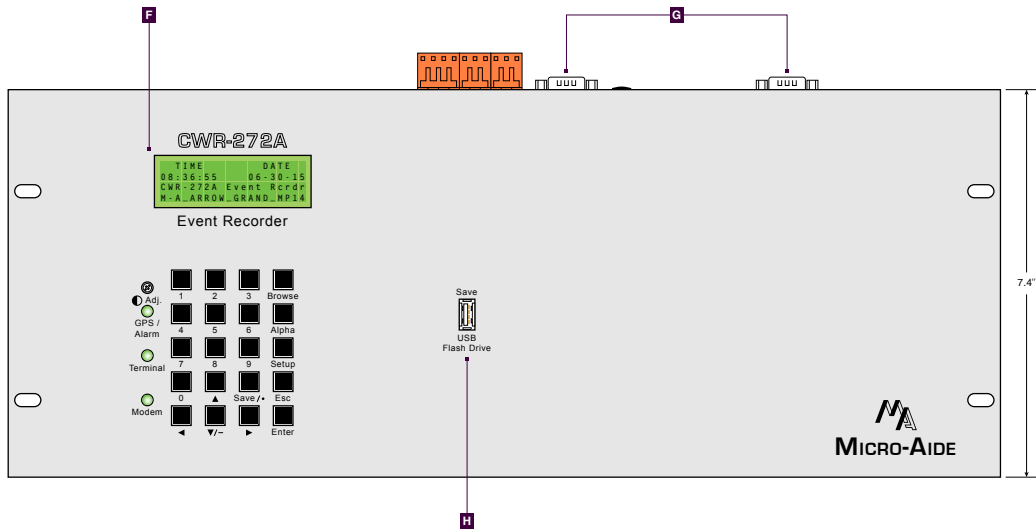
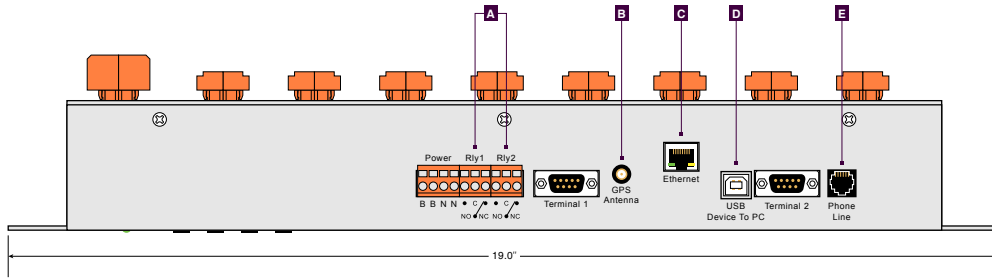
Access to Event Record and Setup Database viewing, limit 8 characters

Passcode

Provides limited alterations to Setup Database via front panel, limit 8 digits

MICRO-AIDE reserves the right to make changes, at its sole discretion, to any specification listed herein.

DIMENSIONAL DRAWING



- A** Dual output relays
- B** Optional GPS Receiver
- C** Ethernet Port (Telnet, SNMP-Ucast, SNMP-Multicast)
- D** USB Device Port
- E** Optional 33.6K Baud Modem
- F** 80-character LCD
- G** Dual RS-232 Terminal Ports
- H** USB Host Port
- I** Detachable screw-down connectors
- J** Detachable tension clamp connectors